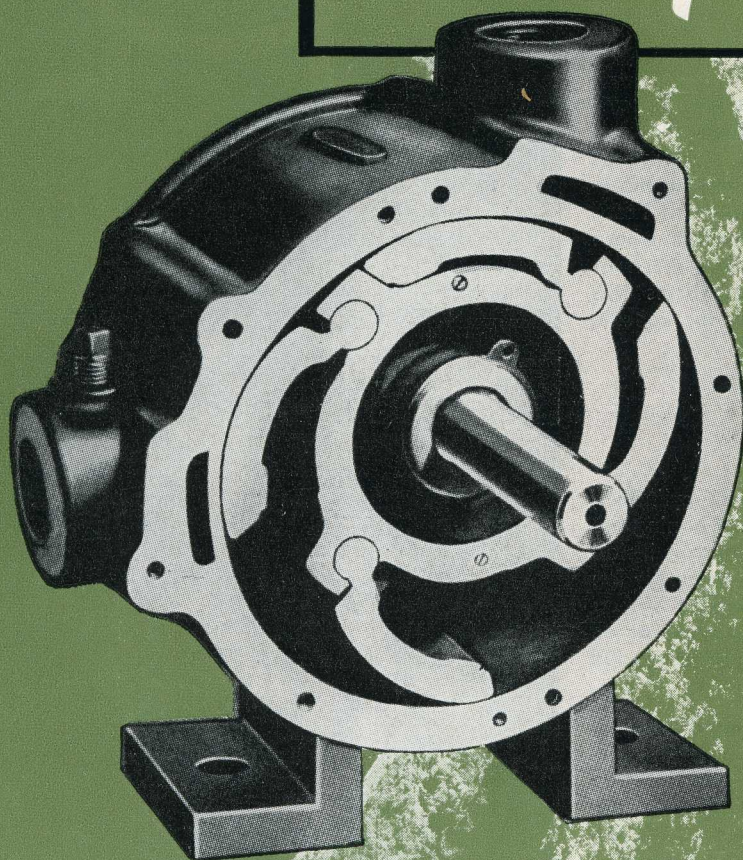




LEIMAN

*air and vacuum
pumps*



29.9"

20 P.S.I.G.

**VACUUM
OR
PRESSURE**

rotary-positive



**air motors
gas pumps**

Catalog No. 755

LEIMAN BROS., INC.

164 Christie Street, Newark 5, N. J.

LEIMAN air and vacuum pumps • rotary positive

Since 1889, Leiman Rotary Positive Air Pumps have been serving the largest original equipment manufacturers in the U. S.

Serving them with dependability, economy and job utility.

range

Leiman Air Pumps are precision designed for producing a smooth, non-fluctuating flow of air in either suction (vacuum) or pressure operations. The wide range of designs cover displacements from .8 CFM to 162 CFM, pressures to 20 lbs. and vacuum to 29.9".

application

The universal acceptance of Leiman Pumps is due, in part, to the extensive range of applications covered. Vacuum pumps for holding or lifting paper, plastics, light metals or mixing operations. Pressure pumps for blowing materials, agitating liquids or increasing gas pressures. These are just a few of the many industrial processes where Leiman air pumps operate more efficiently than mechanical devices. Other industrial uses will suggest themselves to the product designer or plant manager for specific "problem" situations, now present.

construction

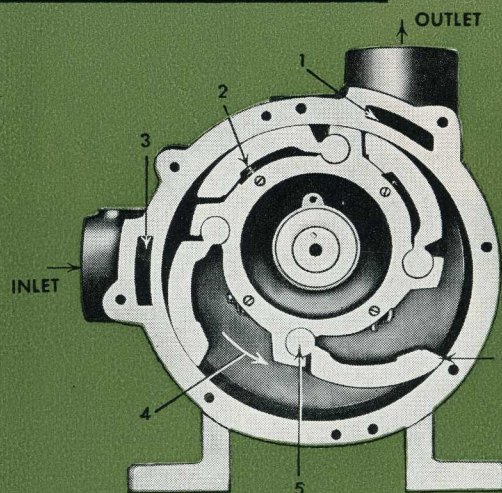
Both styles of Leiman pumps have cast iron cylinders; therefore, the rotating vanes have the effect of honing the inside surface of the cylinder. In a short time, this inside surface is smooth like glass, insuring smooth operation and lifetime wear. As the unique construction of Leiman pumps demands that the wing tip be in contact at all times, the wings wear in conformity. This guarantees full capacity, even after years of service.

The Leiman Rotary Type pump is smaller in dimensions for a given capacity than a reciprocating type pump, occupies less space, and gives practically pulsation-free service. Since vacuum may be obtained at the inlet and pressure at the outlet, one pump can be used where two were required, without the need of reversing rotation.

service

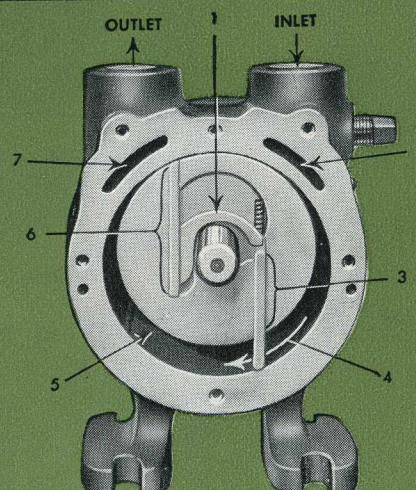
Leiman Bros. maintain a skilled staff of engineers available for consultation, estimating and solving design and installation-maintenance problems. This service is offered, without obligation, in the interests of service and satisfaction.

4-wing type



vacuum up to 20"
pressure to 15 lbs.

2-wing type



vacuum up to 29.9"
pressure to 20 lbs.



1

Air from cylinder through by-pass in cylinder head enters this slot on its way to the outlet above. No opening in curved inner surface means quiet operation.

2

Enclosed stud in piston holds wing close to cylinder at top on largest pumps.

3

Air coming in at inlet at side comes through this slot into cylinder head by-pass and then into the cylinder. No opening in curved inner surface of cylinder means quiet operation.

4

Direction of rotation showing how extended wing scoops up the air at the inlet and carries it around to the outlet.

5

The easy-action hinge enables wing to open and close by the action of centrifugal force.

6

Wing and cylinder surfaces become hard and glassy-like, insuring a perfect fit and positive pressure or vacuum. There are no composition tips to require frequent renewal.

Inlet and outlet threaded for standard iron pipe. Can be used as either vacuum or pressure pumps.

1

The Patented Automatic Wing Adjuster.

2

Air coming in at inlet at top passes through this slot into piston head by-pass and then into cylinder. No opening in curved inner surface of cylinder means quiet operation.

3

The large proportion of wing which always remains in piston slot gives firm bearing and eliminates chattering and fluctuation of air delivery or vacuum.

4

Direction of rotation combined with firm, extra long wing bearing in piston slot and offset of wings from shaft center means easy, noiseless operation.

5

Large proportional air space makes it possible to use a small, compact machine.

6

Wing offset from shaft has extra long slot in piston for rigid bearing.

7

Air from cylinder through by-pass in cylinder head enters this slot on its way to the outlet above. No opening in inner curved cylinder wall means quiet operation.

Outlet and inlet threaded for standard iron pipe.

features

- cast iron construction throughout (no fibre compositions)
- standard pipe threading
- double cylinder (one pump replaces two)
- interchangeable (from vacuum to pressure without changing rotation)
- quiet
- lightweight

4 wing type

- hinge socket swings easily (takes up own wear)
- smaller piston (more space for displacement)

2 wing type

- automatic wing adjuster (prevents sticking or binding—see pg. 6)
- guaranteed positive action
- all steel wings

bearings

stuffing box—Where Leiman Air Pumps are used for boosting gas. It has an adjustable nut and packing gland on the shaft of the pulley side and the opposite side of the pump has a closed up or blind bearing.

roller or ball—Available in 2 wing type and standard equipment on Leiman Air Motors.

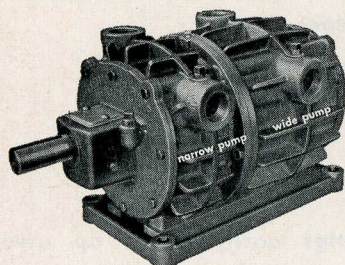
water cooled

Air subjected to pressure or the presence of a high degree of vacuum will heat up a pump. The hinged wings of the 4-wing type are not affected by the metal expansion, because they open and close on the hinges with very little action. As an extra precaution against heat, certain pump sizes are built with air cooling fins. Other sizes which operate under the most extreme conditions are equipped with water cooling jackets.

4-wing type

specifications (for higher vacuum or pressure see page 7)

double cylinder

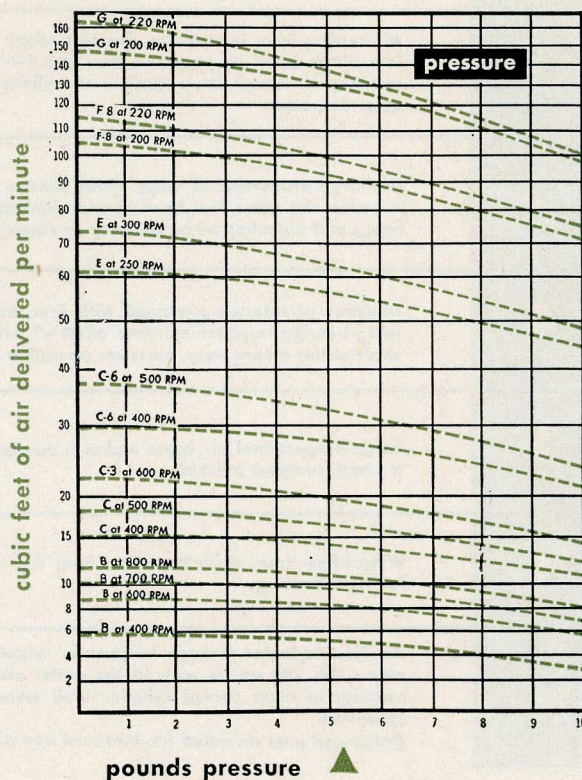
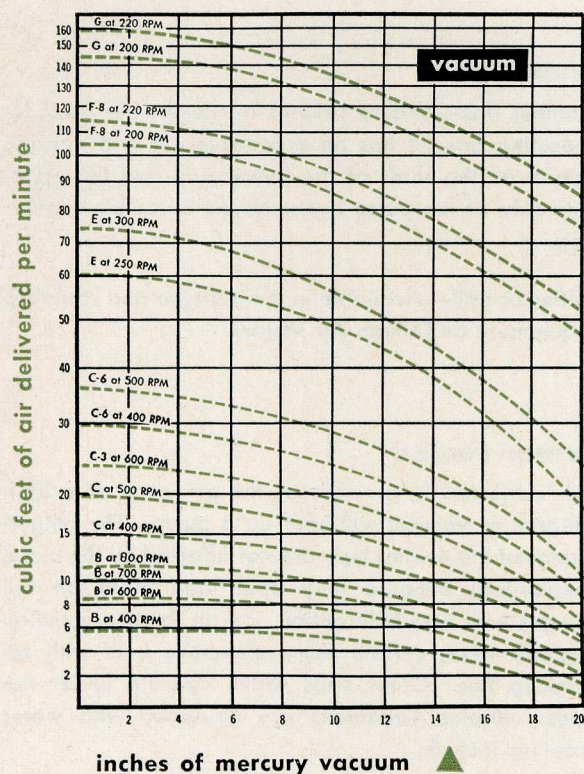


Can be used where both blowing and suction are needed simultaneously.

		double cylinder									
		B-2 x 2		B-2 x 3		C-3 x 3		C-3 x 4 1/2		C-3 x 6	
								narrow pump		wide pump	
size of pump											
cu. ft. per min. displacement		8.5	8.5	8.5	12.7	15	15	15	22.5	15	30
speed in rev. per minute		600	600	600	400	400	400	400	400	400	400
inlet and outlet pipe tap		3/4"	3/4"	3/4"	1"	1"	1"	1"	1"	1"	1"
weight (in pounds)		54	58	85	100	130	145				
VACUUM HORSE POWER	at 6"	.32	.32	.42	.42	.60	.60	.86	.86	.65	.9
	at 10"	.42	.42	.60	.60	.86	.86	1.2	1.2	1.5	1.5
	at 15" inter.	.50	.50	.86	.86	1.5	1.5	2.0	2.0	2.0	2.0
	at 15" steady	.51	.51	1.	1.	1.5	1.5	2.0	2.0	2.0	2.0
	at 20" inter.	.62	.62	1.	1.	1.5	1.5	2.0	2.0	2.0	2.0
	at 20" steady	.75	.75	1.	1.	1.5	1.5	2.0	2.0	2.0	2.0
PRESSURE HORSE POWER	at 3 lb.	.32	.50	.42	.60	.90	1.2	1.2	1.2	1.2	1.2
	at 5 lb.	.42	.75	.60	.90	1.5	2.0	2.0	2.0	2.0	2.0
	at 10 lb. inter.	.62	1.0	1.0	1.5	2.0	2.0	2.0	2.0	2.0	2.0
	at 10 lb. steady	.75	1.0	1.0	1.5	2.0	2.0	2.0	2.0	2.0	2.0
	at 15 lb. inter.	.75	1.0	1.5							

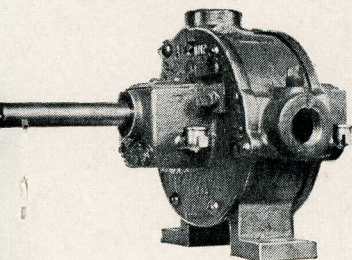
double cylinder: To obtain Total HP Req'd. add the HP Figures for both Vacuum & Pressure desired and select next larger size HP Motor. Narrow pump used for Vacuum —Wide pump used for Pressure.

performance curves





single cylinder



Can be used where either suction or blowing is needed.

		single cylinder															
		B				C		C-3		C-6		E		F-8		G	
size of pump																	
cu. ft. per. min. displacement		5.7	8.5	10	11.4	15	18	22	30	37	61	73	105	115	147	162	
speed in rev. per minute		400	600	700	800	400	500	600	400	500	250	300	200	220	200	220	
inlet and outlet pipe tap		¾"				1"		1"		1"		1½"		2"		2½"	
weight in pounds		27				38		40		60		119		288		303	
VACUUM HORSE POWER	at 6"	.21	.30	.34	.40	.38	.50	.60	.80	.90	1.5	1.8	3.0	3.3	3.9	4.3	
	at 10"	.27	.40	.45	.54	.54	.70	.83	1.08	1.35	2.1	2.5	4.1	4.5	5.6	6.2	
	at 15" inter.	.32	.48	.56	.63	.78	.90	1.08	1.44	1.80	3.0	3.6	5.8	6.4	7.2	7.9	
	at 15" steady	.32	.48	.56	.63	.78	.90	1.08	1.44	1.80	3.0W	3.6W	5.8W	6.4W	7.2W	7.9W	
	at 20" inter.	.40	.56	.66	.80	.90	1.20	1.44	1.80	2.25	3.6	4.3	7.3	8.0	8.2	9.0	
	at 20" steady	.40	.56	.66	.80	.90	1.20	1.44	1.80	2.25	3.6W	4.3W	7.3W	8.0W	8.2W	9.0W	
PRESSURE HORSE POWER	at 3 lb.	.23	.33	.39	.45	.45	.55	.65	.92	1.1	1.5	1.8	3.0	3.3	3.9	4.3	
	at 5 lb.	.30	.44	.52	.60	.63	.78	.92	1.2	1.5	2.1	2.5	4.1	4.5	5.6	6.2	
	at 10 lb. inter.	.44	.65	.75	.88	1.0	1.4	1.6	2.0	2.5	3.6	4.3	7.3	8.0	8.2	9.0	
	at 10 lb. steady	.44	.65	.75	.88	1.0	1.4	1.6	2.0	2.5	3.6	4.3	7.3W	8.0W	8.2W	9.0W	
	at 15 lb. inter.	.52	.78	.92	1.0	1.4	1.7	2.1									

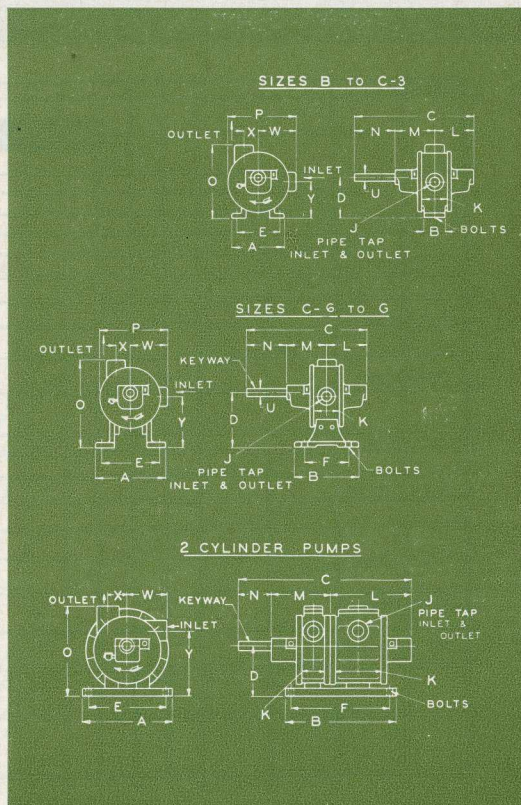
single cylinder: W—these pumps are water cooled when used for steady service of more than ½ hour. Inter—intermittent.

4-wing pump dimensions in inches

Dim. No.	double cylinder						single cylinder							
	B-2 x 2	B-2 x 3	C-3 x 3	C-3 x 4½	C-3 x 6	C-4½ x 6	B	C	C-3	C-6	E	F-8	G	
A	6¾	6¾	7	7	7	7	6	6¾	7¾	8¾	12¾	16¼	18¼	
B	5¾	5¾	10¼	12	12	14	1¾	2¾	2¾	7¾	12¾	13½	14½	
C	13½	14½	15½	17	19	20½	10¾	12¼	10½	13¾	23¾	28½	30	
D	4¾	4¾	5¾	5¾	5¾	5¾	4	4½	5½	6½	8½	9¾	11	
E	5½	5½	6	6	6	6	5	5¼	5¾	7	10½	14	16½	
F	4¾	4¾	9¼	11	11	13				5¼	9½	10	11	
J	¾	¾	1	1	1	1	¾	1	1	1	1½	2	2½	
K	2 & 2	2 & 3	3 & 3	3 & 4½	3 & 6	4½ & 6	2	3	3	6	6	8	8	
L	4¾	5¼	6½	8	9½	9½	3½	4½	3¾	4¾	8½	10¾	11½	
M	4¾	5¼	6½	6½	6½	8	3½	4½	3¾	4¾	8½			
MK							4½	5½		10	11¾	12¾		
N	4	4	2½	2½	3	3	3¾	3¼	3¼	3¼	6½			
NK							2½		3¼		5¼	6¼	5¾	
O	7¾	7¾	9½	9½	9½	9½	7¾	8½	9½	10½	14½	17½	19½	
P	7¾	7¾	8½	8½	8½	8½	6½	8½	8½	9	13¾	17	19¾	
U	1¾	1¾	1	1	1½	1½	1½	1¾	1	1	1¼	1½	1¾	
W	3¾	3¾	4½	4½	4½	4½	3¾	4½	4½	4½	7¾	9½	10½	
X	1¼	1¼	2¾	2¾	2¾	2¾	1¼	1¾	2¾	2¾	2¾	4	4½	
Y	3¾	3¾	7½	7½	7½	7½	3¾	4½	6¾	8½	7¼	8½	9¾	
Bolts	¾	¾	½	½	½	½	¾	½	½	¾	7½	½	½	
Key-way	Flat	Flat	¼	¼	¼	¼	Flat	¾	¼	¼	¼	¾	¾	
Type Brg.	W	W	W	W	W	W	W or S	W	R	R	W or S	S	S	

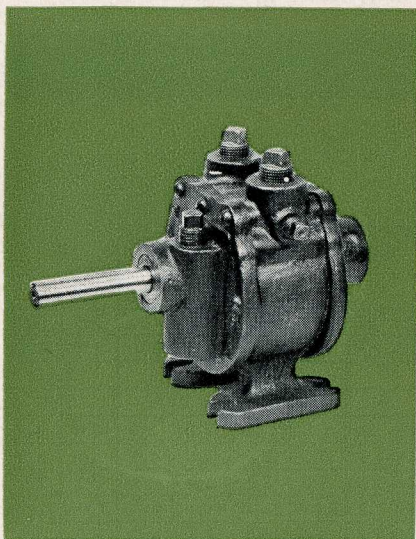
Note: W = wool packed bearing
S = stuffing box type
R = roller bearing type

Note: Dimensions 21K and 40K apply to stuffing box type pumps only.



LEIMAN BROS., INC.

2-wing type



automatic wing adjuster

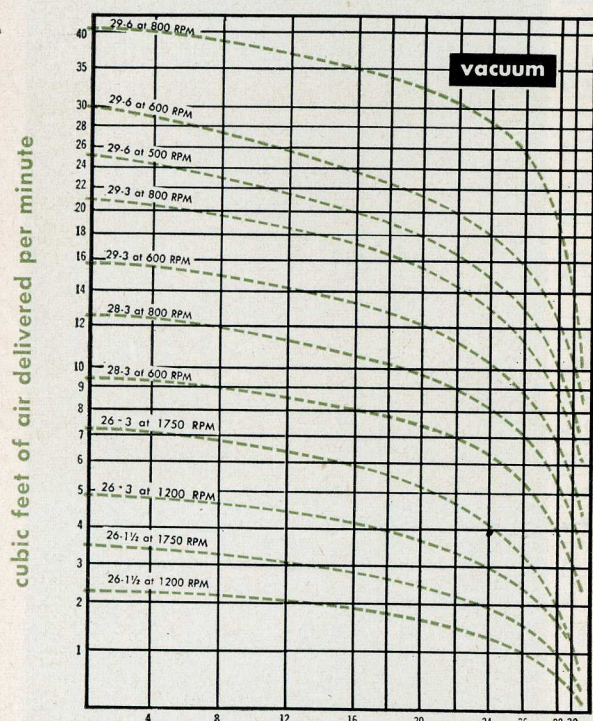


The 2-wing pump is designed for installations requiring a higher degree of vacuum or pressure, but less cubic foot displacement than the 4-wing type. The extra long wings provide more bearing surface when fitted into the long wing slots. They are rigidly constructed and designed for years of wear. These long **steel** wings seal up the air, preventing its escape through back leakage, insuring positive delivery of air at the outlet regardless of pressure and preventing vibration or variation of air pressure. Where vacuum is used the long seal increases the strength of the vacuum, making a steadier and more positive action.

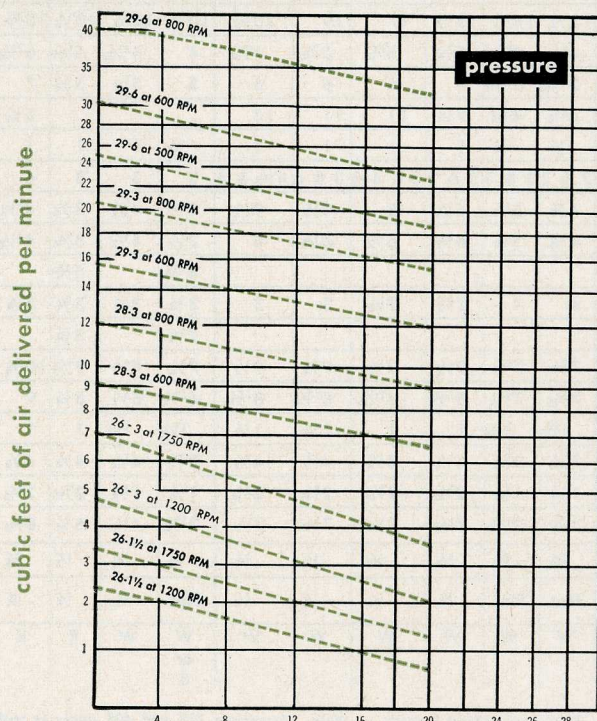
positive action guaranteed

This curved lever connection is attached to one wing and operates as the piston revolves in the cylinder. It adjusts automatically and pushes the **steel** wings out in contact with the curved wall of the cylinder. In operation the **steel** wings adjust themselves by means of centrifugal force combined with the action of this quiet Automatic Wing Adjuster. The **steel** wings, as they revolve, maintain perfect contact with the inner curved surface of the cylinder. The use of this unique, patented adjuster makes it impossible for the wings in this pump to stick or bind.

performance curves



vacuum in inches of mercury ▲



pounds pressure ▲



specifications

2 WING PUMPS

size of pump	26-1½		26-3		28-3		29-3		29-6		
C. F. M. displacement	2.4	3.6	4.8	7.2	9.3	12.4	15.3	20.4	25.5	30.6	40.8
speed in r.p.m.	1200	1750	1200	1750	600	800	600	800	500	600	800
inlet & outlet pipe tap	¾"		½"		¾"		1"		1"		
weight in lbs.	8		13		38		51		68		
VACUUM HORSE POWER	at 24" inter.	.23	.35	.44	.64	.75	.78	1.15	1.45	1.61	2.58
	at 24" steady	.29	.35	.44	.64	.75	.78	1.15	1.45	1.61W	2.58W
	at 27" inter.	.25	.40	.48	.71	.84	.84	1.25	1.69	1.73	2.75
	at 27" steady	.25	.40	.48	.71	.84	.84	1.25	1.69	1.73W	2.75W
	at 29.9" inter.	.26	.42	.52	.75	.88	1.15	1.30	1.77	1.8	2.87
	at 29.9" steady	.26	.42	.52	.75	.88	1.15	1.30	1.77	1.8	2.87
PRESSURE HORSE POWER	at 15 lb. inter.	.29	.46	.55	.88	.93	1.23	1.43	1.90	2.25	3.57
	at 15 lb. steady	.29	.46	.55	.88	.93	1.43	1.43	1.90	2.25W	3.57W
	at 20 lb. inter.	.35	.56	.76	1.08	1.10	1.47	1.71	2.28	2.72	4.35
	at 20 lb. steady	.35	.56	.76	1.08	1.10	1.47	1.71	2.28	2.72W	4.35W

Inter.—Intermittent.

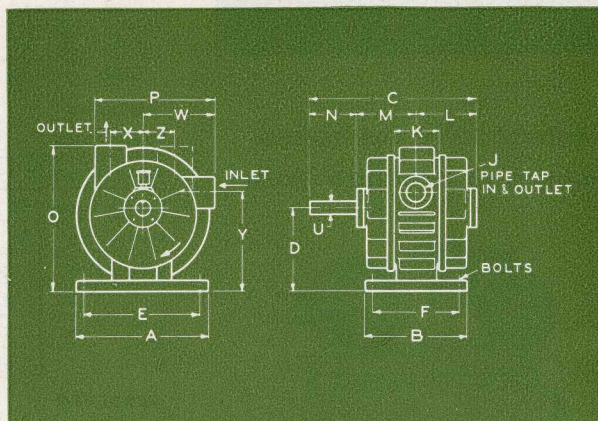
W—Watercooled

dimensions in inches

2 WING PUMPS

dim. letter	air cooled					water cooled
	26- 1½	26-3	28-3	29-3	29-6	29-6
A	3¼	3¼	6¾	7⅞	7⅞	7⅞
B	2¾	4⅜	5⅜	6¼	6¼	6¼
C	5⅞	6⅞	9¼	11½	14⅞	14⅞
D	2¾	2¾	4⅞	5⅞	5⅞	6⅞
E	2⅞	2⅞	5⅞	6⅞	6⅞	6⅞
F	2⅞	3¼	4⅞	5¼	5¼	5¼
J	¾	½	¾	1	1	1
K	1½	3	3	3	6	6
L	2	2¾	3⅞	3⅞	5⅞	5⅞
M	1⅞	2⅞	3¼	4	5⅞	5⅞
N	1½	1½	2¾	3	3⅞	3⅞
O	4⅞	5⅞	7⅞	9⅞	9⅞	10⅞
P	3⅞	3⅞	7⅞	8⅞	8⅞	9½
U	½	½	¾	1	1	1
W			3⅞	4½	4½	5
X	1⅞	1⅞	1⅞	2⅞	2⅞	2⅞
Y			5½	7⅞	7⅞	8⅞
Z	1⅞	1⅞				
bolts	¼	¼	¾	¾	¾	¾
keyway	FLAT	FLAT	¾	¼	¼	¼
type brg.	R	R	R	R	R	R

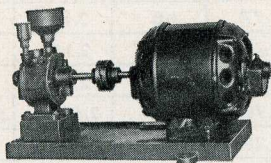
NOTE
R = Roller Bearing Type



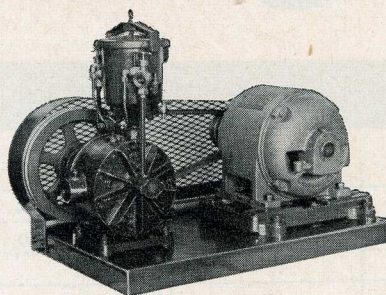
standard motor-driven air and vacuum pumps

All Leiman Air Pumps may be supplied as a complete motor driven unit. Equipped with motor (electric or gasoline), V-belt drive, pulleys, base plate, and belt guard, these units are individually designed for specific jobs. Standard equipment includes a manually operated oil cup, pressure or vacuum relief valve, and appropriate muffler. Water cooled air pumps supplied in certain sizes for steady service. (Intermittent service means service periods of not more than one-half hour on and off.)

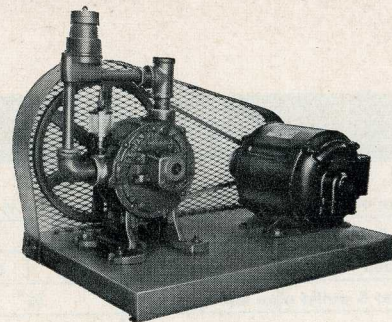
direct coupled units



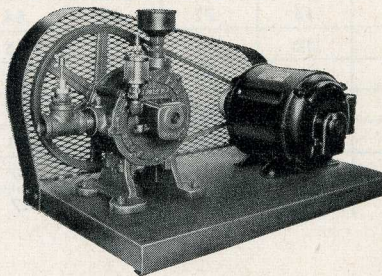
G — Above. Direct coupled units are made to order and require gear reducing motors for air pump sizes A to G.



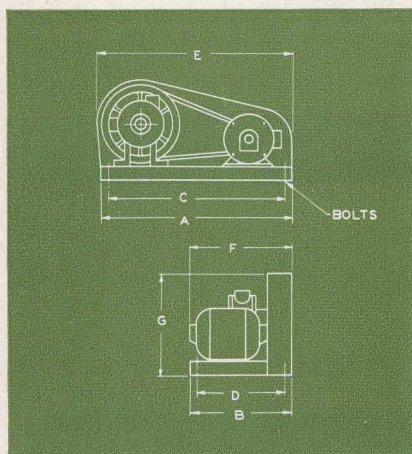
E — MOTOR DRIVEN UNIT with Automatic Oiling System for Steady Vacuum.



F — PRESSURE UNIT up to 20 lbs. is equipped with oil cup, oil return muffler, and pressure relief valve. Inlet muffler supplied only on four smallest pumps.



D — VACUUM UNIT — is provided with oil cup, outlet muffler, and fins for air cooling.



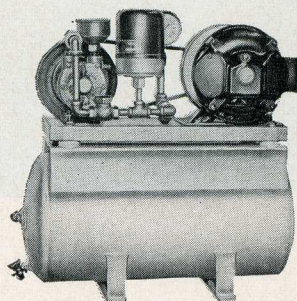
Pump Size →	26-1 1/2 26-3	B C 28-3	C C-3 C-6 26-3 28-3 29-3 29-6	C C-6 28-3 29-3 29-6	29-6	E	E	E	F-8 G	F-8 G	F-8 G
Motor H.P. →	1/4 to 1/2	1/4 to 3/4	1 to 1 1/2	2 to 3	5	2	3	5	3	5	7 1/2 to 10
A	16	20	27	30	34	34	36	38	38	41	59
B	11	13	16	21	26	26	24	26 1/2	26 1/2	30	32
C	15	19	26	26 3/4	31	31	33	36	36	39	56
D	7 1/4	9	12	19	24 1/2	24 1/2	22	24 3/4	24 3/4	28	30
E	16	23 1/2	29 1/2	30 1/2	34	34	38	40	38	41	57
F	12	13	17	21	26	25	26	26	26	28 1/2	28
G	8	14 1/2	15	16 1/2	16 1/2	17	23	26	25	30	34
bolts	3/8	3/8	3/8	3/8	1/2	1/2	1/2	1/2	1/2	1/2	1/2

vacuum

Size of Pump	B		C		E		26-1 1/2		26-3		28-3		29-3		29-6	
Cu. Ft. Minute	8.5	10	15	18	61	73	2.4	3.6	4.8	7.2	9.3	12.4	15.3	20.4	30.6	40.3
Vacuum inches	20	20	20	20	20	20	29	29	29	29	29	29	29	29	29	29
Horsepower	.56	.66	.90	1.20	3.6	4.3	.26	.42	.52	.75	.88	1.15	1.30	1.77	2.15	2.87
Size of Tank	12 x 30"		12 x 30"		16 x 36"		10 x 20"		10 x 20"		12 x 30"		12 x 30"		14 x 30"	
over all dims. ins.	H	32	36	53	25	33	32.5	36.5	40.5							
	W	15	18	27	14	16	21	21	18							
	L	40	40	46	28	37	40	40	40							

pressure

Size of Pump	B		C		E		26-1 1/2		26-3		28-3		29-3		29-6	
Cu. Ft. Minute	8.5	10	15	18	61	73	2.4	3.6	4.8	7.2	9.3	12.4	15.3	20.4	30.6	40.8
Pressure, lbs.	10	10	10	10	10	10	20	20	20	20	20	20	20	20	20	20
Horsepower	.65	.75	1.0	1.4	3.6	4.3	.35	.56	.76	1.08	1.10	1.47	1.71	2.28	3.27	4.35
Size of Tank	12 x 30"		12 x 30"		16 x 36"		10 x 20"		20 x 30"		12 x 30"		12 x 30"		14 x 30"	
over all dims. ins.	H	32	36	53	25	33	32.5	36.5	40.5							
	W	15	18	27	14	16	17	15	26							
	L	40	40	46	28	37	40	40	40							



5 — Automatically controlled vacuum and pressure tank unit.



LEIMAN BROS., INC., 164 Christie St., Newark 5, N. J.